2014 NEC® Update, key focus Grounding and Bonding
Live Seminar Timed Outline
8 Contact Hours

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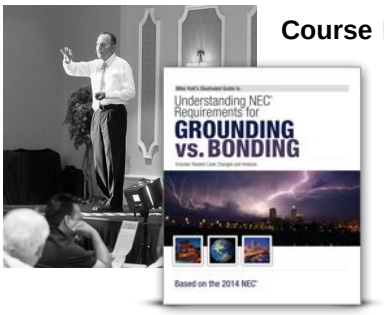

Course Description: This course brings you an accurate, in-depth coverage of one of the least understood articles in the NEC®, Grounding vs. Bonding. More than any other topic in the Electrical industry, Grounding and Bonding is at the core of most power quality, and safety, issues.

This dynamic presentation translates the very technical language of the NEC® into everyday electrician's language to ensure a safe Code-compliant system that is designed, installed, and inspected to reflect the significant knowledge found in the 2014 NEC®.

This course will review Article 250 and all related articles from 90-820.

Course Timed Outline:

8:00am – 12:00pm

Article 90-Introduction into the National Electric Code

Article 100-Definitions

Article 250-Grounding and Bonding

Part I. General

- 250.4 General Requirements for Grounding and Bonding
- 250.6 Objectionable Current
- 250.8 Termination of Grounding and Bonding Conductors
- 250.10 Protection of Fittings
- 250.12 Clean Surfaces

Part II. System Grounding and Bonding

- 250.20 Systems Required to Be Grounded
- 250.21 Ungrounded Systems—50V to 1,000V
- 250.24 Service Equipment—Grounding and Bonding
- 250.28 Main Bonding Jumper and System Bonding Jumper
- 250.30 Separately Derived Systems—Grounding and Bonding
- 250.32 Buildings Supplied by a Feeder
- 250.34 Generators—Portable and Vehicle-Mounted
- 250.35 Permanently Installed Generators
- 250.36 High-Impedance Grounded Systems

Part III. Grounding Electrode System and Grounding Electrode Conductor

- 250.50 Grounding Electrode System
- 250.52 Grounding Electrode Types
- 250.53 Grounding Electrode Installation Requirements
- 250.54 Auxiliary Grounding Electrodes
- 250.60 Lightning Protection Electrode
- 250.62 Grounding Electrode Conductor
- 250.64 Grounding Electrode Conductor Installation
- 250.66 Sizing Grounding Electrode Conductor
- 250.68 Termination to the Grounding Electrode
- 250.70 Grounding Electrode Conductor Termination Fittings

Part IV. Grounding Enclosure, Raceway, and Service Cable Connections

- 250.80 Service Raceways and Enclosures
- 250.86 Other Enclosures

12:00pm – 1:00pm LUNCH

1:00pm – 4:00pm

Part V. Bonding

- 250.92 Bonding Equipment for Services
- 250.94 Intersystem Bonding Termination
- 250.96 Bonding Other Enclosures
- 250.97 Bonding Metal Parts Containing 277V and 480V Circuits
- 250.98 Bonding Loosely Jointed Metal Raceways

250.100 Bonding in Hazardous (Classified) Locations
250.102 Bonding Conductors and Jumpers
250.104 Bonding of Piping Systems and Exposed Structural Metal
250.106 Lightning Protection System

Part VI. Equipment Grounding and Equipment Grounding Conductors

250.110 Fixed Equipment Connected by Permanent Wiring Methods—General
250.112 Specific Equipment Fastened in Place or Connected by Permanent Wiring Methods
250.114 Cord-and-Plug-Connected Equipment
250.118 Types of Equipment Grounding Conductors
250.119 Identification of Equipment Grounding Conductors
250.120 Equipment Grounding Conductor Installation
250.121 Use of Equipment Grounding Conductors
250.122 Sizing Equipment Grounding Conductor

Part VII. Methods of Equipment Grounding

250.130 Equipment Grounding Conductor Connections
250.134 Equipment Connected by Permanent Wiring Methods
250.136 Equipment Considered Grounded
250.138 Cord-and-Plug-Connected Equipment
250.140 Ranges, Ovens, and Clothes Dryers
250.142 Use of Neutral Conductor for Equipment Grounding ..
250.146 Connecting Receptacle Grounding Terminal to Metal Enclosure
250.148 Continuity and Attachment of Equipment Grounding Conductors in Metal Boxes

Part VIII. Direct-Current Systems

250.166 Sizing Direct-Current Grounding Electrode Conductor

4:00pm – 5:00pm

Article 300-Wiring Methods and Materials

Article 300—General Requirements for Wiring Methods and Materials
Article 314—Outlet, Device, Pull, and Junction Boxes; Conduit Bodies; and Handhole Enclosures
Article 320—Armored Cable (Type AC)
Article 330—Metal-Clad Cable (Type MC)
Article 334—Nonmetallic-Sheathed Cable
Article 348—Flexible Metal Conduit (Type FMC)
Article 350—Liquidtight Flexible Metal Conduit (Type LFMC)
Article 352—Rigid Polyvinyl Chloride Conduit
Article 356—Liquidtight Flexible Nonmetallic Conduit (Type LFNC)
Article 358—Electrical Metallic Tubing
Article 362—Electrical Nonmetallic Tubing
Article 386—Surface Metal Raceways
Article 392—Cable Trays

Article 400-Equipment for General Use

Article 404—Switches
Article 406—Receptacles, Cord Connectors, and Attachment Plugs (Caps)
Article 408—Switchboards and Panelboards
Article 410—Luminaires, Lampholders, and Lamps
Article 450—Transformers

Article 500-Special Occupancies

Article 501—Class I Hazardous (Classified) Locations
Article 502—Class II Hazardous (Classified) Locations
Article 503—Class III Hazardous (Classified) Locations
Article 517—Health Care Facilities
Article 525—Carnivals, Circuses, Fairs, and Similar Events
Article 547—Agricultural Buildings
Article 555—Marinas and Boatyards

Article 600-Special Equipment

Article 600—Electric Signs and Outline Lighting
Article 640—Audio Signal Processing, Amplification, and Reproduction Equipment
Article 645—Information Technology Equipment
Article 680—Swimming Pools, Spas, Hot Tubs, Fountains, and Similar Installations
Article 690—Solar Photovoltaic (PV) Systems

Article 800-Communications Systems

Article 810—Radio and Television Equipment
Article 820—Community Antenna Television (CATV) and Radio Distribution Systems